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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,825	02/22/2006	Yang Li	36-1960	6807
23117 7590 08/31/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER JACOB, AJITH	
			ART UNIT 2169	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,825

Applicant(s)

LI, YANG

Examiner

Ajith Jacob

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/06, 10/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The instant application having Application No. 10/568825 has a total of 13 claims pending in the application, there are 3 independent claims and 10 dependent claims, all of which are ready for examination by the examiner.

Oath/Declaration

2. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63**.

Claim Objections

3. Claim 1 is objected to because of the following informalities: In the sixth and seventh paragraph of the claim, the usage 'the or each' is not clear and should be fixed to possibly read 'each'. Appropriate correction is required.

4. Claim 4 is objected to because of the following informalities: There should be a space between the word 'claim' and the number '1' for the reference to the independent claim. Appropriate correction is required.

5. Claim 11 is objected to because of the following informalities: The word 'claims' should not be in plural form since it only pertains to one dependent claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claim 11 recites the limitation "the apparatus of claim 8" in lines 1-2. Claim 8 is a method claim and not an apparatus. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9-13 are directed towards software, *per se*. The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in

Benson were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

9. Claim 9 describes an apparatus for storing and retrieving electronic documents, but does not specify a physical piece of hardware to fulfill the claim, and thus has been rejected.

10. Claims 10-11 does not solve any of the non-statutory deficiencies of claim 9, and thus are rejected for the reasons stated above.

11. Claim 12 describes a computer program for the method of searching through stored documents, but does not specify a physical piece of hardware to fulfill the claim, and thus has been rejected.

12. Claim 13 is a carrier of the computer program described by claim 12, but does not specify whether the carrier is a signal or a physical storage device, and thus has been rejected.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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14. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. (WO 02/10980 A1).

For claim 1, Lin et al. teaches:

A method of searching through a plurality of stored documents, the method comprising:

storing the plurality of documents [storing of collection of documents, page 1, lines 8-12];

storing a representation of an ontology, the ontology comprising a plurality of inter-related nodes and being divided into at least two distinct sub-spaces [ontological parser, page 28, lines 9-19];

for each of the plurality of documents, storing at least one association with a node of a first distinct sub-space of the ontology and at least one association with a node of a second distinct sub-space of the ontology [formulation of nodes and associations based on relations, page 28, lines 9-19];

controlling a user interface to permit a user to input up to at least two search terms using free text entry and to associate the or each search term with a respective distinct sub-space of the ontology [user query interface and matching, page 43, lines 4-15];

comparing the or each input search term with nodes of the corresponding sub-space only, in order to attempt to determine one or more possible matches or partial matches [comparing and matching search terms, page 35, lines 12-15]; and

selecting one or more of the stored documents based on the or each possibly matched or partially matched node and the stored associations between the stored documents

and the nodes of the ontology for presentation to the user [present user with one or more matches, page 29, lines 27-30 – page 30, lines 1-3].

For claim 2, Lin et al. teaches:

A method of storing a plurality of electronic documents comprising:
generating in respect of each electronic document at least one association with a node of a first type of node and at least one association with a node of a second type of node, the nodes belonging to a predetermined ontology which has the property that a subtree of a node of a given type contains only nodes of that same given type [matching nodes to predetermined ontology, page 29, lines 7-26]; and
storing the pair or group of associations generated in respect of a particular document in addition to the document in a digital memory in such a way that the associations can be readily linked to the corresponding document [vector patterns mapped to group associated predicates and matches mapped together, page 29, lines 7-26].

For claim 3, Lin et al. teaches:

A method as claimed in claim 1 wherein the first sub-space contains verb nodes or the first type of node is a verb node and the second sub-space contains noun nodes or the second type of node is a noun node [first type node is a verb while second type node is a noun, page 35, lines 1-4].

For claim 4, Lin et al. teaches:

A method as claimed in claim 1, wherein the associations are stored in an index for efficient searching together with an identification of the document to which each pair

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or group of associations relates [predicates stored in index for easier searching, page 31, lines 16-22].

For claim 5, Lin et al. teaches:

A method as claimed in claim 1 wherein the documents include a natural language description of a service [natural language descriptions in documents, page 14, lines 24-28].

For claim 6, Lin et al. teaches:

A method as claimed in claim 1 further comprising generating a relationship identifier identifying one of a finite number of distinct possible relationships between a node within the first sub-space or of the first type and a node of the second sub-space or of the second type and storing said relationship identifier together with the pair or group of associations [vector patterns mapped to group associated predicates, page 29, lines 7-26].

For claim 7, Lin et al. teaches:

A method of retrieving one or more electronic documents from an electronic storage means storing a plurality of electronic documents, the documents having been stored in accordance with the method of claim 2, the retrieval method comprising: receiving an electronic signal representative of a search request including at least a first term associated with a first type of node and at least a second term associated with a second type of node of a predetermined ontology [user request with multiple terms, page 34, line 30 – page 35, lines 1-10]; comparing the first term with a plurality of nodes of said first type and comparing the

second term with a plurality of nodes of said second type and, in the event of determining at least a partial match, attributing a degree of match to each such node [matching of nodes, page 35, lines 1-4];

generating at least one translated search request comprising at least one of said matched nodes of said first type, at least one of said matched nodes of said second type and the degree of match associated with each [translation of request, page 35, lines 1-10];

comparing each matched node of the or each translated search request with the corresponding node of the same type identified by the stored pair or group of associations corresponding to each of the stored electronic documents [matching predicates with ontological parser to match result, page 35, lines 12-15];

selecting documents for retrieval on the basis of the result of the comparison between the translated search request or requests and the stored pair or group of associations [selection based on translation, page 35, lines 12-15]; and

outputting an electronic signal representative of, or identifying, the or each selected electronic document [output selection, page, 35, lines 12-15].

For claim 8, Lin et al. teaches:

A method of generating a search request for use in the method of claim 7, the search request generating method comprising:

controlling a user interface to request from a user a first term; controlling the user interface to request from the user a second term [query entry on user interface end, page 14, lines 10-15];

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controlling the user interface to request the user to choose one of a plurality of possible relationship types to express the relationship between the first and second terms [multiple input queries to refine search page 13, lines 28-31 – page 14, lines 1-9]; and generating a search request based on the information entered by the user [connection to the system for query, page 14, lines 10-15].

For claim 9, Lin et al. teaches:

Apparatus for storing and retrieving electronic documents comprising:
an electronic data store comprising means for storing a plurality of electronic documents;
further electronic data storage means for storing a pair or group of associations associating each electronic document with at least one node of a first type and at least one node of a second type of a predetermined ontology [stored document data and ontology data, page 17, lines 3-24];
request generation means for generating a search request comprising a first term and a second term [user query interface and matching, page 43, lines 4-15];
translation means for generating a translated search request or requests by comparing the first term of a search request with nodes of the first type and comparing the second term of the search request with nodes of the second type to find specific nodes which correspond to the terms of the search request [comparing and matching search terms, page 35, lines 12-15]; and
comparison means for comparing the or each translated search request with each stored pair or group of associations and selecting those documents for which a

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sufficiently close match is determined [present user with one or more matches, page 29, lines 27-30 – page 30, lines 1-3].

For claim 10, Lin et al. teaches:

Apparatus according to claim 9 wherein the electronic data store also comprises the further electronic data storage means [data store is a storage mean, page 17, lines 3-24].

For claim 11, Lin et al. teaches:

An electronic data store for use in the apparatus of claim 8, the data store storing a plurality of electronic documents and a pair or group of associations associating each electronic document with at least one node of a first type and at least one node of a second type of a predetermined ontology means [ontology data storage, page 17, lines 3-24].

Claim 12 is a computer program of the method described by claim 1. Lin et al. teaches the limitations of claim 1 for the reasons stated above.

Claim 13 is a carrier means for a computer program of the method described by claim 1. Lin et al. teaches the limitations of claim 1 for the reasons stated above.

Conclusion

The Examiner requests, in response to this Office action, that support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the Examiner in prosecuting the application.

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When responding to this Office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ajith Jacob whose telephone number is 571-270-1763. The examiner can normally be reached on M-F 7:30-5:00 EST, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ali can be reached on 571-272-4105. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


MOHAMMAD ALI
PRIMARY EXAMINER

8/17/2007

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Patent Examiner